



September 6, 2011

AQUION INCORPORATED  
RAINSOFT  
YE LIU  
2080 E. LUNT  
ELK GROVE VILLAGE IL 60007

Re: Description: WATER TREATMENT DEVICE - POE SOFTENER  
Manufacturer: AQUION INCORPORATED  
Product Name: RAINSOFT EC4 SERIES  
Model Number(s): EC4 50V, EC4 60V, EC4 60SS V, EC4 75 C, EC4 100 V, EC4 100S V,  
EC4 75 CV, EC4 100 CV, EC4 100S CV, EC4 150 CV, EC4 250 CV,  
EC4 400 CV, EC4-CAB 60CV, EC4-CAB 100 CV, EC4 150V, EC4 250V,  
EC4 400V, EC4-CAB 60V, EC4-CAB100V, EC4 50CV, EC4 60CV AND  
EC4 60SS CV (USING "V" RESIN)  
Product File No: 20110246

The specifications and/or plans for this plumbing product have been reviewed and determined to be in compliance with chapters Comm 82 through 84, Wisconsin Administrative Code, and Chapters 145 and 160, Wisconsin Statutes.

The Department hereby issues an approval based on the Wisconsin Statutes and the Wisconsin Administrative Code. This approval is valid until the end of September 2016.

This approval supersedes the approval issued on October 25<sup>th</sup>, 2008 under product file number 20060397.

This approval is contingent upon compliance with the following stipulation(s):

- This product has undergone sufficient testing to document the product's ability to reduce only those contaminants and/or substances as specified in this approval letter when the product is installed and maintained in strict accordance with the manufacturer's published instructions.
- Where the Department of Natural Resources (DNR) has jurisdiction, a written approval may be required prior to installation of this product in a water supply system to reduce the concentration of a contaminant that exceeds the primary drinking water standards contained in ch. NR 809, Wis. Admin. Code, the enforcement standards contained in ch. NR 140, Wis. Admin. Code, or for a water supply system that is subject to a written advisory opinion by the DNR. For more information contact the DNR Section of Private Water Systems, P.O. Box 7921, Madison, WI 53707, telephone (608) 267-9787.
- If these approved devices are modified or additional assertions of function or performance are made, then this approval shall be considered null and void, unless the change is submitted to the department for review and the approval is reaffirmed.
- At the time of installation, these devices shall be provided with an effective means to warn the users when they are not performing their function. This shall be accomplished by one of the following:
  1. sounding and alarm or flashing a light, each connected to an acceptable power source;
  2. providing a sampling kit for analysis of hardness or other appropriate contaminants; or
  3. providing a hardness monitor.

- These cation exchange water softeners shall be sized, installed, programmed and maintained such that wastewater volumes, total dissolved solids and chloride discharges are minimized.

Based on testing data submitted to and reviewed by the department, this approval recognizes that these plumbing products will reduce the concentration of contaminants as specified on pages 1 through 2 of this letter.

**WATER SOFTENING CAPABILITIES**  
**PRODUCT FILE NUMBER 20110246**  
**TABLE 1 OF 1**

Model Numbers	Capacity*						Flow Rate vs. Pressure Loss
EC4 Series	Rating 1		Rating 2		Rating 3		
Demand Initiated	Grains	Pounds	Grains	Pounds	Grains	Pounds	gpm @ psig
EC4 50 V	8,900	2.0	15,500	5.0	18,700	7.5	10.0 @ 14.0
EC4 50C V	8,900	2.0	16,000	5.0	18,700	7.5	10.0 @ 13.0
EC4 60S V	10,700	2.4	18,600	6.0	22,400	9.0	9.5 @ 9.0
EC4 60S CV	10,700	2.4	18,600	6.0	22,400	9.0	9.5 @ 8.0
EC4 CAB 60 V	10,700	2.4	18,600	6.0	22,400	9.0	9.5 @ 9.0
EC4 CAB 60 CV	10,700	2.4	19,200	6.0	22,500	9.0	9.5 @ 8.0
EC4 60SS V	10,700	2.4	18,600	6.0	22,400	9.0	9.5 @ 9.0
EC4 60SS CV	10,700	2.4	19,200	6.0	22,500	9.0	9.5 @ 8.0
EC4 CAB 60SS V	10,700	2.4	18,600	6.0	22,400	9.0	9.5 @ 9.0
EC4 CAB 60SS CV	10,700	2.4	19,200	6.0	22,500	9.0	9.5 @ 8.0
EC4 75 V	13,400	3.0	23,200	7.5	28,100	11.2	8.6 @ 15.0
EC4 75 CV	13,400	3.0	24,000	7.5	28,100	11.2	9.2 @ 15.0
EC4 100 V	14,200	3.0	30,500	10.0	34,500	15.0	10.0 @ 10.0
EC4 100 CV	14,200	3.0	30,500	10.0	34,500	15.0	10.0 @ 11.0
EC4 100 SV	14,200	3.0	30,500	10.0	34,500	15.0	10.0 @ 10.0
EC4 100 S CV	14,200	3.0	30,500	10.0	34,500	15.0	10.0 @ 11.0
EC4 CAB 100 V	14,200	3.0	30,500	10.0	34,500	15.0	10.0 @ 10.0
EC4 CAB 100 CV	14,200	3.0	30,500	10.0	34,500	15.0	10.0 @ 12.0
EC4 150 V	21,400	4.5	45,800	15.0	51,800	22.5	9.0 @ 10.0
EC4 150 CV	21,400	4.5	45,800	15.0	51,800	22.5	10.4 @ 15.0
EC4 250 V	35,600	7.5	76,400	25.0	86,300	37.5	10.4 @ 10.0
EC4 250 CV	35,600	7.5	76,400	25.0	86,300	37.5	10.5 @ 12.0
EC4 400 V	57,000	12.0	122,200	40.0	138,100	60.0	10.0 @ 10.0
EC4 400 CV	57,000	12.0	122,200	40.0	138,100	60.0	11.3 @ 14.0

\* Softener capacity ratings are based on grains of hardness, due to calcium and magnesium cations, removed (as calcium carbonate) while producing soft water between successive regenerations and are related to the pounds of salt required for each regeneration. The tests run to generate the hardness reduction data for table 1 of 2 were conducted in accordance with NSF Standard 44. Studies conducted on sulfonated poly-styrene di-vinyl benzene (SSDVBC) cation exchange media have documented that if hardness is reduced to less than 1.0 grain per gallon (17.1 mg/l), then barium and radium will also be effectively reduced. Thus, the capacity of these device for reducing barium and/or radium are based on the hardness reduction capacity ratings displayed above. This device is efficiency rated (ER) at the lowest salt dosages displayed for each model (i.e. "Rating 1").

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This device was tested under controlled laboratory, or field, conditions. The actual performance of this device for a specific end use installation will vary from the tested conditions based on local factors such as water pressure, water temperature and water chemistry.

The department is in no way endorsing this product or any advertising, and is not responsible for any situation which may result from its use.

Sincerely,

Glen W. Schlueter  
Engineering Consultant-Plumbing Product Reviewer  
Bureau of Integrated Services  
Safety and Buildings Division  
Department of Safety and Professional Services  
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GWS:gws